

ABSTRACT

UVB radiation of about 300-310 nm wavelength and UVA radiation of about 380-390 nm wavelength, each of which exists in solar light, induces MMPs (matrix metalloproteinases) in human skin that degrade the collagen of the dermal matrix. This degradation contributes to photoaging of human skin, which can be prevented by blocking these wavelengths of solar radiation. In contrast, diseases that result in the overproduction of collagen can be treated by exposing the affected with to radiation having wavelengths in those regions, for these wavelengths not only induce MMPs but also inhibit collagen biosynthesis. For lighter skinned people so affected, the UVA wavelengths are preferred because of the reduced amount of erythema, whereas dark skinned people can be treated with the UVB radiation because they generally do not suffer from erythema.